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ABSTRACT

Encouraging young women to study for, and enter careers in, science and mathematics continues to be a problem in American society. One program that introduces young women to successful adult women in the science and mathematics professions is the "Expanding Your Horizons in Science and Mathematics" (EYH) conference. Illinois State University has hosted an EYH conference since 1991. One goal of the conference is to encourage young women to realize the importance of mathematics and science courses in education and career choices. Four years of conference attendees were surveyed to determine how their EYH conference participation influenced them as they moved through high school to college and/or full-time employment. EYH conference participation appears to be successful in exposing young women to the increasing number of career options available to women today. Unfortunately, the conference does not appear to influence young women's decision making regarding their education and career choices. Recommendations for improvement are made. Appendix includes conference participant survey. (Author)

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# Assessing the Impact of a Science and Mathematics Workshop on the Educational and Career Choices of Young Women

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Abstract

Encouraging young women to study for, and enter careers in, science and mathematics continues to be a problem in American society. One program that introduces young women to successful adult women in the science and mathematics professions is the "Expanding Your Horizons in Science and Mathematics" (EYH) conference. Illinois State University has hosted an EYH conference since 1991. One goal of the conference is to encourage young women to realize the importance of math and science courses in education and career choices. Four years of conference attendees were surveyed to determine how their EYH conference participation influenced them as they moved through high school to college and/or full-time employment. EYH conference participation appears to be successful in exposing young women to the increasing number of career options available to women today. Unfortunately, the conference does not appear to influence young womens' decision making regarding their education and career choices. Recommendations for improvement are made.

**Assessing the Impact of a Science and Mathematics Workshop on the Educational and Career Choices of Young Women**

Encouraging young women to study for and enter careers in the sciences and mathematics continues to be a problem in American society. Of the almost 50% of women that make up today's' work force, only 16-20% are employed as scientists and engineers (Alper, 1993). Cultural norms and expectations have defined roles for women that, while important in their own right, place severe barriers to young women seeking technical or scientific pursuits (White, 1970). Alper (1993) cites several studies showing how society tends to send different messages to males and females about math and science abilities. These different message then tend to be reinforced by teachers in grade school and beyond (Sadker and Sadker, 1992). Despite impediments, the call continues to encourage more young women to pursue science and mathematics at their careers (Wallace, 1989).

The loss of self confidence or self esteem, and not any difference in ability, may be one cause for the reduction in the number of girls that take math or science courses at the high school level (Wellesley College Center for Research, 1992). Over the past 15 to 20 years many studies have shown that a chief deterrent to later success on science and engineering is poor preparation in math in the high school for most women (Alper, 1993). One important factor that seems to contribute to women entering and sustaining careers in mathematics and science has been the number of physical science and math courses taken in high school (Farmer, Wardrop, Anderson, and Risinger, 1995). Levine and Zimmerman (1995) have shown that additional high school math classes positively affect the likelihood that female college graduates will enter technical and non-traditional employment.

Few role models exist for young women, who often times have little source of encouragement or direction, to pursue their interests (Kelly, 1988). A conclusion now drawn by many researchers is that the presence of other women or a strong female role model is important to the success of women in math and science (Etzkowitz, Kemelgor, Neuschatz, Uzzi, and Alonzo, 1994). Research has shown that young women often enter science-related fields because of experiences outside of school such as being part of a science club or participation in organization such as Girls Scouts of the USA (Alper, 1993). It appears that the presence of other women create a different environment from the competitive male domain of science. Those who achieve their education goals often find their careers impacted due to their gender (Rubin, 1986; Brush, 1991). Women in the science fields -- although equally qualified -- still tend to be unemployed, underemployed, or in positions off the tenure track (Wolfson, 1993).

The immediate issue is not how to change a societal precept developed over centuries, but rather how to better support and nurture the developing educational and career interests of young women in the sciences and mathematics. Since 1978 there have been a number of programmatic interventions have been developed and attempted to accomplish this task

(Matyas, 1988). These interventions tend to focus on improving attitudes while simultaneously increasing interest and participation in science, mathematics and engineering (Stage, 1992). Research has shown that these interventions should, ideally, take place at the middle school and tenth grade, as it is at these points that decisions are being made by girls to continue into advanced math or science courses (Campbell, 1992; Wolfson, 1994). Many of these science-related interventions are directed to girls within the school setting and include: single gender classes, classes designed specifically for girls or programs for teachers focusing on gender equity.

One longstanding and successful program has been the "Expanding Your Horizons in Science and Mathematics" (Koltnow, 1980). This program works on a conference format in which young women, of seventh through twelfth grade years, spend one (or more) days interacting with adult women who have are in professions that use science and math. Participants are able to interact with these same gender role models. They have opportunities to learn from other women what education is necessary for a successful career, the obstacles that need be overcome, and the rewards that can be earned. In almost two decades of operation nationwide the Expanding Your Horizons (EYH) conferences have helped thousands of young women, their parents and teachers to better understand the educational and career choices that are available (Conwell and Prichard, 1992). Conwell and Prichard (1992) further reported that 90% of the young women surveyed immediately after they attended an EYH program stated that the conference was somewhat helpful in clarifying their career plans. However, no longer term follow-up has been reported on whether the students actually choose more courses, or a career in math or science, as a result of their participation in this program.

Expanding Your Horizons at Illinois State University

Illinois State University has hosted and EYH conference each spring since 1991, with over 3,200 young women participating in these five years. In addition, over 650 parents and teachers have attended the conference. The conference is organized by a board of directors with committees that take care of the administrative functions such as room reservations, equipment procurement, fund raising, and recruiting women from various professions to serve as role models presenters for the young women attendees. This conference follows the national model of having a single day conference, described in the promotional brochure as "A fun-filled conference for girls in grades 6 through 10, and their parents and teachers" (Illinois State University, 1995).

Each year between 500 and 900 girls come to campus on a single Saturday to take part in three hands-on workshops presented by women who use science or mathematics in their careers. Prior to the conference students choose three workshops, and three alternates, from a list of between 50 and 70 workshop descriptions. Workshop assignments are made on a first-come first-served basis according to the return of the pre-registration materials. In addition to the workshops, the girls can interact with other women in a series of career displays that the girls can attend during the mid-day lunch break. The career workshops are quite diverse and

include traditional math/science careers such as physicians, nurses, and university researchers. Non-traditional careers have also been presented, including a workshop on raising llamas as a business and working as an engineer for the Illinois Department of Transportation.

The goal of the ISU conference is to encourage the attending young women to take more math and science courses at the junior high and high school level and, hopefully, to eventually want to pursue careers that use math and science. A secondary goal of the ISU EYH conference is to expose the young women attendees to careers that are still not traditionally associated with women in our society. The conference attempts to achieve these goals by providing opportunities for positive interactions among the girls and professional women who use math and science in their careers.

When the conference first began in 1991 many workshop leaders were recruited from the university community and from the general community based the recommendations of women in the ISU community. As the conference has grown many of the workshop leaders are still recruited from this informal network of women or on recommendations or other workshop leaders. No special experience or expertise is required of a workshop leader except the desire to share knowledge about their careers.

Occasional attempts have been made to survey participants for specific feedback immediately after the conference. Many of the responses from these immediately-after surveys consisted of comments such as "great program" or "more programs like this are needed". To date, however, no attempt had been made to ascertain the impact of the program on the educational and career choices subsequently made by these young women. No follow up has taken place with these young women to find out if the conferences have had an impact on their choice of major in school or career, if they are employed. The current research effort sought to understand how much, and in what ways, EYH conference participation influenced the young women attendees as they moved through high school to college and/or full-time employment.

## Methods

### Participants

This research was a survey effort of selected Illinois State University EYH conference attendees who were either beyond the age of high school or would typically be in their senior year of high school. Of the approximately 3,022 total participants in five years of EYH programming at ISU at total of 587 young women met these qualification. All 587 young women were included in the study.

Materials

The primary research instrument was a two page written survey (Appendix A). Printed on the front page of each survey was the year (or multiple years in several of the cases) the participant attended an ISU EYH conference and the titles of the specific workshops that they attended. Demographic information about the respondent's current academic and employment status were requested, along with information about their educational career goals. Printed on the back page of each survey were a number of questions asking the participants to reflect on their EYH conference experiences, and how they thought those EYH experiences might have helped to clarify their educational and career goals. Also asked were general questions about what they liked best and least about the conference.

Design and Procedure

Each of the surveys was personalized with the attendees name together with the year(s) and conference workshops that they had attended. A cover letter explaining the purpose of the survey, and soliciting their response, was also included with each survey. The survey, along with the cover letter and a postage-paid return envelope, was mailed via third-class pre-sorted mail to the home address of each of the 587 identified participants in mid-May of 1995. A second mailing using first-class mail was accomplished in mid-June to the non-respondents.

It must be noted from the outset that a low return rate was anticipated. No effort had been made by anyone at ISU EYH to maintain a current address on any of the young women who had attended the conference in the previous years. We expected many of the surveys to be returned as undeliverable, with others being delivered to valid addresses that were no longer the homes of the girls who attended the conference (mail forwarding orders, if any, having already expired). Further, the survey asked for responses about a one-day conference that, for some of the attendees, had occurred four years distant. We felt that some of these girls might indicate that they could not remember any details from the conference or subsequent decisions based on their participation. An unknown number of others, not remembering the experience, would fail to return the survey at all.

## Results

Thirty-seven surveys were completed and returned from the first mailing, with two surveys returned as undeliverable. Forty surveys were completed and returned from the second mailing, with 50 additional surveys returned as undeliverable. This resulted in a total of 77 completed surveys with 52 returned as undeliverable.

Respondents Demographics

The average age of the respondents was 17.4 years. Virtually every respondent (97.4%) indicated that they were, at the time of completing the survey, a full time student.

Fifty-seven percent stated that they were currently attending high school, 7.8% were attending community a community or junior college, 32.5% were attending a 4 yr college or a university, with the remainder (1.3%) taking classes in a trade or technical school. Table 1 summarizes the respondents year in school.

Sixty-one percent of the respondents indicated that they had decided upon an academic major. The greatest number of these (16.8%) were in mathematics and/or science. When combined, majors that traditionally use math and science (math/science, health professions and engineering) totaled 32.2% (see Table 2). Twenty-one percent of the respondents indicated they also had an academic minor. Almost half of these (9.1%) indicated they also had an academic minor in math and/or science (see Table 3).

Seventy-five percent of the respondents indicated that they work full-time in addition to attending school, another 22.1% stated that they worked part-time. Of these respondents a majority worked in sales (24.7%) with the remainder that responded working at various types of jobs (see Table 4).

Eighty-nine percent of the respondents had one or more educational goals. Table 5 summarizes the educational goals of the respondents. Of those that stated having an educational goal a majority of the respondents (38.5%) listed a four year or Bachelors degree. In addition to listing a specific goal many of the respondents stated other general goals (13.8%), such as "get as much education as possible" or "graduate with honors".

Ninety-three percent stated that they had one or more career goals. Table 6 summarized these career goals with a largest number (27.6%) indicating a career in health professions. Twenty-one percent also stated general goals such as "find a respectable career", "get a good job", or "become a functioning part of society".

Clarifying educational goals

The survey asked the respondent two questions regarding how different aspect of the EYH conference, the workshops and the displays and exhibits, help to clarify their educational goals. The largest number of respondents (27.9%) stated that the workshops did not help to clarify their educational goals. Seventeen percent stated that the workshops helped them to realize that they need more education in general to succeed (see Table 7). Similar responses were obtained regarding the displays and exhibits (see Table 8). Some respondents did state the that workshops, displays and exhibits did exposed them to new career ideas.

Clarifying career goals

The survey asked the respondents two question regarding how different aspects of the EYH conference, the workshops, and the displays and exhibits helped to clarify their career goals. The workshops, and the displays and exhibits, gave the largest number of respondents

information or insights about new careers (22.6% and 27.6% respectively). One participant, representative of the majority, stated that "it opened my mind to other careers that I never thought about pursing". A smaller number of respondents did state the workshops (7.5%), displays and exhibits (6.9%), helped to steer the respondent to a specific career (see Tables 9 and 10).

Opinions about the EYH conference

A majority of the respondents attended the EYH conference on the recommendation of another person (20.4%), such as a teacher, parent or friend. Twenty-six percent of the respondents came to the conference specifically to learn about different careers or math/science careers for women (see Table 11). When asked what they liked least about the conference a number of the students (13%) said that the conference was geared for too young an audience. Many of those that responded felt "most of the girls were too young to be interested in in-depth information. And the program seemed geared to interest girls in science but nothing specific." Nine percent did not like a specific workshop or workshop related activity (see Table 12). When asked what they liked the most about he conference a majority of respondents listed workshop activities and persons involved with the conferences as the highest (16%). Other likes were varied with only 4.4% that "did not like anything" (see Table 13). A general comment that was voiced by several of the young women is that they liked the conference because "it was for girls only."

## Discussion

In recent years the national average of women enrolling in math/science courses or majors at the college entry level has reached nearly 50%. In some majors it is far above the 50% mark. It is interesting to note that only 32% of the EYH respondents stated that they had a major in mathematics, science or a related field. The large "no response" rate of 35.1% (see Table 2) was, perhaps, due to many of the high school seniors not seeing themselves having a major course of study in the high school.

We found it surprising that a majority of the respondents stated that the conference did not help to clarify their educational goals. Only a small number stated that the conference steered them to specific course work or helped in some way to clarify their educational goals. Several factors may have combined to this produce this response from the attendees.

Several of the respondents stated that, at the time of the conference, they were too young to have formed any educational goals. Similar ideas were seen in the responses to the questions about career goals. This is somewhat surprising because a survey by the Office of Science and Technology in Great Britain showed that 70% of women surveyed had made a career choice of science between the ages of 11 and 16, the ages the EYH conference ins targeted toward (Verrall, 1994). Unlike other EYH conferences, the Illinois State University conference specifically targets a younger audience, from sixth grade through tenth grade. It

may be that young women at these ages are not thinking about educational and career goals. It may also be that the importance of conceptualizing educational and career goals early in one's life, so that the necessary background courses in math and science might be taken in high school, is not sufficiently emphasized. One possible action for the conference would be to change the age levels of conference attendees to include only young women at the higher grade levels, more conformant with other EYH programs (grades seven through twelve).

Another factor that may be involved is the manner in which the workshop leaders are prepared for the conference. A packet given to the workshop leaders after they have agreed to contribute their time and energies to the conference consists of a small handout of tips for running a successful workshop. The handout tells them to introduce themselves, describe what a typical day consists of in their career, and to prepare a hands-on workshop dealing with some aspect of their career. They are not asked to, and many have reported not, describe what type of math/science courses they had to take in high school, college or professional school or even after they began their careers to attain their current position. It may be that the workshop attendees may not be making the connection between the career achievement of the workshop leader and the number and kind of mathematics and science courses that person to take. From the responses in Tables 7 and 8 it appears the girls realize that they need more education, but not necessarily the specific mathematics and science courses at the high school level. Future conferences might want to consider encouraging the workshop leaders to stress the import link taking more and specific kinds of mathematics and science courses at the high school and early college levels to their current careers and professional success.

One of the goals of the ISU EYH conference is to expose the attendees to women who have achieved success in different careers. It appears that this function of the conference is working as evidenced by the several respondents who stated that the conference exposed them to new careers that they never knew existed or careers in which they never knew women could work in (see Tables 9 and 10). Expanding on this positive role modeling in future years would seem like a step in the right direction, including women who represent as many different careers as possible, especially those in non-traditional careers and those in careers still commonly associated as male-dominated.

Many of the respondents were quite articulate about they like least about the conference, giving insight into some of the other comments made to previous questions (see Table 12). Several of the responses pointed to workshops that were not challenging, did not give in-depth information, or were outright boring. It is difficult to gauge and maintain the interest level adolescents of either gender. Unfortunately, many of the workshop leaders do not interact with junior high or high girls in the course of their careers. The wide diversity of age groups participating in the EYH conference appears to exacerbate this problem. The results is that a workshop prepared for sixth and seventh grade students may not be as challenging or exciting to ninth or tenth grade students.

Several steps may be necessary to address these problems. Again, offering the conference for girls a similar age group, or having the workshops leaders prepare workshops for particular age groups and organizing the students accordingly to both age and interest, may provide a more homogeneous and receptive audience. Many of the workshop leaders may not be familiar with the curriculum the attending students receive in school, making it difficult for them to know what information the students have already learned in school. Prior to the conference the workshop leaders could be given an opportunity to interact with educators from local junior or high schools to learn about the various curriculums. The workshops leaders should be provided with a list of concepts that are taught in the schools so as to better prepare their workshops.

The size of the conference appears to have been a difficulty for many of the students. Several respondents stated the conference was "too large" or that "they did not get the workshop they wanted". While the size of the conference has grown over the past few years attempts are being made to reduce the actual number of students in each workshops so each can have a more personal interaction with the workshop leaders. The problem of not getting the specific workshop a respondent wanted is a bit more difficult to solve. Several of the workshops are quite popular, being the first choice of many of the students. While an attempt could be made to get more workshop leaders from these specific high-interest careers more workshops in certain interest areas might not be possible given the local pool of women professionals from which to recruit workshop leaders. Instead, a change in the method of presentation of the workshops may be considered. Rather than having the student choose a set of specific workshops from a list of available workshops the students could be encouraged to select a category of workshops types from a more general list of those being offered. Instead specific workshops titled, for example, "Learn to Use the Microscope" and "Microbes in Action", these two choices would be in the single category of "Biological Sciences". Conference attendees would then receive one of the workshops in that category about the biological sciences rather than one workshop in particular.

In spite of some dissatisfaction with the conference, a majority of the students liked the hands-on aspect of the workshops and the workshop leaders involved with the conference. General, positive comments appeared to be targeted at the mathematics and science aspect of the conference. Comments such as "[the conference] showed how math and science are used in real-life" and "I felt I needed to learn more math and science" were typical. Another respondent grasped the underlying purpose of the conference in stating that she like the conference because "I really felt confident in pursing both career and educational goals after attending the conference. Before I was a little bit intimidated that males were the only ones who could succeed. Now I know that I am able to achieve as much as them!".

## Conclusion

The overall impact of past "Expanding Your Horizons through Sciences and Mathematics" conferences at ISU on young women in helping make their educational and

careers choices appears to be marginal. Only a small percentage of those responding to the survey stated that they were either steered to, or away from, a particular educational or career goal as a result of their participation in the conference. The conference does appear, however, to succeed in showing the respondents of a need to further general education (if not specifically in mathematics or science). The conference also demonstrates to young women the increasing number of career options available to women through the achievements of positive women role models. Recommendations for future iterations of the conference include: modifying the overall age range of conference attendees; providing additional assistance to workshop leaders to prepare workshop materials and presentations more appropriate for the age group and interests of the attendees; and encouraging the workshop leaders to explicitly stress to conference attendees the mathematics and science course work required to achieve that success. The ISU EYH conference is one way to overcome decades of misinformation and gender-specific role modeling that has been detrimental to young women nationwide. These recommendation should improve the conference's impact on the student educational and career choices in the future.

## Author Notes

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Dr. Jeffrey B. Hecht is an Associate Professor in the Department of Educational Administration and Foundations at Illinois State University. He is also the Principal Investigator of the Technological Innovations in Educational Research Laboratory, investigating ways to improve the use of technology in education and educational research.

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Table 1

What is your year in school?

| Response Category | Numb of Resp | Pct of Resp |
|---|---|---|
| Senior in high school | 37 | 48.1% |
| Freshman in 4-year college | 17 | 22.1% |
| Junior in high school | 6 | 7.8% |
| Sophomore in 4-year college | 6 | 7.8% |
| First year community college | 5 | 6.5% |
| Junior in 4-year college | 2 | 2.6% |
| Second year community college | 1 | 1.3% |
| Technical school | 1 | 1.3% |
| No response | 2 | 2.6% |

Table 2

What is your academic major?

| Response Category | Numb of Resp | Pct of Resp |
|---|---|---|
| Math / Science | 13 | 16.8% |
| Health professions | 8 | 10.4% |
| Liberal Arts | 8 | 10.4% |
| Engineering | 5 | 6.5% |
| General Ed / College Prep | 5 | 6.5% |
| Undecided | 5 | 6.5% |
| Education | 3 | 3.9% |
| Not applicable | 3 | 3.9% |
| No response | 27 | 35.1% |

Table 3

What is your academic minor (if any)?

| Response Category | Numb of Resp | Pct of Resp |
|---|---|---|
| Math / Science | 7 | 9.1% |
| Liberal Arts | 7 | 9.1% |
| Undecided | 4 | 5.2% |
| Not applicable | 4 | 5.2% |
| Health related field | 1 | 1.3% |
| Engineering | 1 | 1.3% |
| No response | 53 | 68.8% |

Table 4

What is your title at your place of employment?

| Category Response | Numb of Resp | Pct of Resp |
|---|---|---|
| Sales | 19 | 24.7% |
| Misc. positions | 15 | 19.6% |
| Food service | 8 | 10.4% |
| Office / Secretarial | 7 | 9.1% |
| Animal care | 4 | 5.2% |
| Health care assistant | 3 | 3.8% |
| Teaching assistant / tutor | 3 | 3.8% |
| No response | 18 | 23.4% |

Table 5

What are your educational goals?

| Response Category | Numb of Resp | Pct of Resp |
|---|---|---|
| 4 yr degree / Bachelor's | 48 | 38.5% |
| Graduate / Master's degree | 21 | 16.9% |
| General goals ("Do well in school") | 17 | 13.8% |
| Math / Science professional | 14 | 11.3% |
| 2 yr degree | 10 | 8.1% |
| Ph. D. | 4 | 3.3% |
| Undecided | 1 | 0.8% |
| No response | 9 | 7.3% |

Table 6

What are your career goals?

| Response Category | Numb of Resp | Pct of Response |
|---|---|---|
| Health professions | 29 | 27.6% |
| General goals ("Be successful") | 23 | 21.9% |
| Math / Science / Computers | 16 | 15.2% |
| Undecided | 10 | 9.5% |
| Liberal Arts | 9 | 8.6% |
| Education | 8 | 7.6% |
| Ph. D. | 5 | 4.8% |
| No response | 5 | 4.8% |

Table 7

How did your EYH workshop experiences help you to clarify your educational goals?

| Response Category | Numb of Resp | Pct of Resp |
|---|---|---|
| Did not clarify | 24 | 27.9% |
| Need more education to succeed | 15 | 17.4% |
| Exposed to new careers | 10 | 11.6% |
| General positive | 8 | 9.3% |
| Helped choose future courses | 6 | 7.0% |
| Steered to courses | 5 | 5.9% |
| Steered away from courses | 3 | 3.5% |
| No response | 15 | 17.4% |

Table 8

How did the additional EYH Exhibits and Display help you clarify your educational goals?

| Response Category | Numb of Resp | Pct of Resp |
|---|---|---|
| Realized the need for further education | 11 | 12.9% |
| Did not clarify | 10 | 11.8% |
| Gave ideas or steered to new careers | 9 | 10.6% |
| Enjoyed displays and exhibits | 6 | 7.0% |
| Did not attend displays | 6 | 7.0% |
| Met women in different careers | 5 | 5.9% |
| Clarified educational goals | 4 | 4.8% |
| General negative | 3 | 3.5% |
| Too young at time of conference to have ed goals | 2 | 2.3% |
| No response | 29 | 34.2% |

Table 9

How did your EYH workshop experiences help you to clarify your career goals?

| Response Category | Numb of Resp | Pct of Resp |
|---|---|---|
| Got career information and insight into new careers | 21 | 22.6% |
| Did not clarify | 18 | 19.4% |
| Workshops showed women positively in careers | 14 | 15.0% |
| Steered to specific careers | 7 | 7.5% |
| Steered away from a specific career | 5 | 5.4% |
| Too young at the time conference to have career goals | 5 | 5.4% |
| Showed need to plan for further education | 3 | 3.2% |
| General positive | 3 | 3.2% |
| No response | 17 | 18.3% |

Table 10

How did the additional EYH Exhibits and Displays help you to clarify your career goals?

| Response Category | Numb of Resp | Pct of Resp |
|---|---|---|
| Got career information and insight into new careers | 24 | 27.6% |
| Did not clarify | 11 | 12.6% |
| Did not attend displays | 7 | 8.0% |
| Narrowed down or steered me toward a career | 6 | 6.9% |
| Talked to people about careers | 4 | 4.6% |
| General negative | 3 | 3.4% |
| General positive | 2 | 2.4% |
| No response | 30 | 34.5% |

Table 11

Why did you attend the EYH conferences?

| Response Category | Numb of Resp | Pct of Resp |
|---|---|---|
| Recommended by someone | 21 | 20.4% |
| Looked or sounded interesting | 20 | 19.4% |
| Learn about careers or clarify career goal | 15 | 14.6% |
| Learn more about math science careers | 12 | 11.7% |
| Sounded fun | 11 | 10.7% |
| Curious about conference | 5 | 4.8% |
| Convenient | 5 | 4.8% |
| Meet women in math / science fields | 3 | 2.9% |
| No response | 11 | 10.7% |

Table 12

What did you like least about the EYH conference(s) you attended?

| Response Category | Numb of Resp | Pct of Resp |
|---|---|---|
| Too young for conference | 13 | 13.2% |
| Did not like a specific workshop | 9 | 9.1% |
| Did not get workshop they wanted | 8 | 8.1% |
| Too many people / too spread out | 8 | 8.1% |
| Cannot remember | 8 | 8.1% |
| Wanted more in-depth information | 6 | 6.1% |
| General negative | 6 | 6.1% |
| Did not like other activity (not workshop) | 5 | 5.0% |
| Not enough time for workshops | 5 | 5.0% |
| Liked whole conference | 5 | 5.0% |
| Boring, not enough activities | 4 | 4.0% |
| No response | 22 | 22.2% |

Table 13

What did you like most about the EYH conference(s) you attended?

| Response Category | Numb of Resp | Pct of Resp |
|---|---|---|
| Workshop activities | 14 | 15.8% |
| Workshop leaders / others involved with conference | 14 | 15.8% |
| General positive | 10 | 11.3% |
| Find out about difference careers | 7 | 7.8% |
| Organization of conference | 5 | 5.7% |
| Confirmed career choice | 4 | 4.5% |
| Entertaining/fun | 4 | 4.5% |
| Did not like anything | 4 | 4.4% |
| Steered away from career | 3 | 3.4% |
| Activities other than workshop | 2 | 2.2% |
| No response | 21 | 24.8% |

**Expanding Your Horizons in Science and Mathematics**

# Conference Impact Survey

The following survey asks you about your experiences with the **Expanding Your Horizons** conference(s) that you attended at Illinois State University. According to our records, you enrolled in the workshop(s) for the year(s) listed below. We want to know what impact these workshops and the special exhibits and displays have had on your thinking about your future education and career decisions.

Please answer the following questions, feeling free to write additional comments in the margins or on an additional sheet. Your responses are important to us, even if you remember only a few things from your EYH conference experience. Regardless of what you tell us we will keep all of your comments private and will not identify you in any report or outcome from this survey. Your input will help us to improve the EYH conference for future young women participants. **Thank you for your help!**

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**(NOTE: If you did not attend the above workshops, please write in which ones you did attend)**

## Please tell us about yourself

How old are you? _____ years

Are you a student (in High School, College, or other school)? ☐ Yes ☐ No

If **yes**, what kind of school?
- ☐ High School
- ☐ Community / Junior College
- ☐ 4-year College or University
- ☐ Trade / Technical School
- ☐ Other _____

Are you a full-time or part-time student? ☐ Full-time ☐ Part-time

What is your year in school? _____

What is your academic major? _____

What is your academic minor (if any)? _____

Are you employed (either full-time or part-time)? ☐ Yes ☐ No

If **yes**, what is your position title? _____

What are your educational goals?

What are your career goals?



**continued on back →**

## Please tell us about your conference experience(s)

Each **Expanding Your Horizons** conference consisted of several Workshops by women with careers using math and/or science. Each conference also had an Exhibit area with displays and a chance to talk with the presenters in depth. The objective of these conference experiences is not to make young women choose educational or career goals in math or science; rather, it is to expose each participant to the opportunities that are available. We are interested in how informative and useful these experiences were to you, regardless of whether your educational and career choices involve math and/or science. If possible please identify the presenter(s) and experience(s) that were the most helpful to you.

How did your EYH Workshop experiences help you to clarify your **educational** goals?

How did your EYH Workshop experiences help you to clarify your **career** goals?

How did the additional EYH Exhibits and Displays help you to clarify your **educational** goals?

How did the additional EYH Exhibits and Displays help you to clarify your **career** goals?

Why did you attend the EYH conference?

What did you like least (find least helpful) about the EYH conference(s) you attended?

What did you like most (find most helpful) about the EYH conference(s) you attended?



**Thank you for your help!**